UNITED STATES PATENT AND TRADEMARK OFFICE

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10/526,090	02/24/2005	Luigi Lancieri	33901-218PUS	6632

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). ·
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-12</u> is/are pending in the application.

    4a) Of the above claim(s) <u>5-9</u> is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-4 and 10-12</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>24 February 2005</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Claim Objections

1.   **Claims 5, 7, and 9** are objected to under 37 CFR 1.75(c) as being in improper

form because a multiple dependent claim cannot depend from any another multiple

dependant claim. Claims 5, 7, and 9 are dependant from claim 4, which is in proper

multiple dependant form. See MPEP § 608.01(n). Accordingly, the claims have not

been further treated on the merits. As claims 6 and 8 depend from claims 5 and 7,

respectively, they also have not been further treated on the merits.

Drawings

2.   New corrected drawings in compliance with 37 CFR 1.121(d) are required in this

application because the current drawings are not written in English. Applicant is advised

to employ the services of a competent patent draftsperson outside the Office, as the

U.S. Patent and Trademark Office no longer prepares new drawings. The corrected

drawings are required in reply to the Office action to avoid abandonment of the

application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 101

3.   35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

> Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

> When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and Warmerdam, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

> In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

4.   **Claims 1-4 and 10-12** are rejected under 35 U.S.C. 101 because the claimed

invention is directed to non-statutory subject matter as follows. Claims 1-4 describe an

"automatic description method", and claims 10-12 describe a "automatic description

device". Both the method and device claims are drawn to an entirely software based

system as described in the corresponding specification disclosure. The claimed

invention inputs a multimedia object and outputs a description, both of which are merely

forms of data. Therefore, the full scope of the system and method claims encompasses

nothing more than software; i.e., computer program which is deemed "functional

descriptive material". However, the claims do not define a computer-readable medium

or memory and are thus non-statutory for that reason (i.e., "When functional descriptive

material is recorded on some computer-readable medium it becomes structurally and

functionally interrelated to the medium and will be statutory in most cases since use of

technology permits the function of the descriptive material to be realized" – Guidelines

Annex IV).   Again, given that the scope of the presently claimed system and method

encompasses nothing more than software, and in light of the fact that there is no

claimed computer readable medium or memory to make the claims a "tangible" product,

the claims are rejected under 101 as being functional descriptive material not residing

on a computer readable medium. The examiner suggests either reciting some form of

tangible computer readable medium, or narrowing the scope of the claims to exclude

the recitation of purely software or purely a computer program, which is nothing more

than an abstract idea and a Judicial Exception (refer to the Guidelines).

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

6.   **Claims 1-3, and 10-11** are rejected under 35 U.S.C. 103(a) as being

unpatentable over Deng et al. (US 2002/0183984 A1) in view of Maier et al. (US

6,125,208).

Regarding **claim 1**, Deng teaches an automatic description method for an

unknown multimedia object in which the unknown object is associated with several

types of reference multimedia objects each time depending on a probability of

membership to each considered type (G) ("The invention is a system and method for

categorizing non-textual subject data on the basis of descriptive class labels", Deng

paragraph 7), the method including a step consisting of

measuring at least one physical characteristic on the unknown object (F) and

comparing it with measurements of characteristics best representing the reference

types ("frequency pattern techniques may be employed", Deng paragraph 55), the

method also including the step (H) consisting of

using at least one probabilistic relation for each type giving a probability of

membership to the type considered as a function of the result of the comparison of

characteristics of the unknown object and the type (Deng calculates probability of

membership to several classes in several steps, for instance "In column 100, the

second order classes are calculated on the basis of conditional probabilities", Deng

paragraph 55).

Deng does not teach using probabilities of membership to the different types thus

obtained in combination with a series of affinity relations between types, so as to elect

memberships that are majority in probability and are also co-designated by their affinity

relation, so as to exclude memberships with a lower affinity with elected types

Maier teaches combining probability of membership with affinity relations to

produce a more refined classification (Maier compares the probabilities of character

membership to each character type outputted from the multiple recognition units and

selects the one type with highest score from each recognizer, here the affinity relation is

binary. This is evidenced by the first paragraph in column 4 of Maier: "One of the writing recognition units 30, 40 recognizes in the character sample of FIG. 2 wither the letter "M" (reliability value: 80%) or the letter "N" (reliability value: 50%). The other of the writing recognition units 30, 40 does not recognize only the letters "M" (reliability value: 60%) and "N" (reliability value: 50%), but also the character "*" (reliability value: 30%). Since the preferred embodiment of the invention only processes further the recognized symbol with the highest reliability value, only the letters "M" and the reliability value 60% or 80% are read into the character sample storage part 100.").

It would have been obvious at the time of invention to one of ordinary skill in the art to apply the use of affinity relations as taught by Maier to the classification method of Deng because the method of Maier is general purpose, it is only dependant on generic data such as probabilities and degrees of affinity even though it is applied in an optical character recognizer by Maier; it would be obvious to one skilled in the art to recognize the general applicability of Maier's classification system. Deng performs a similar classification operation with multiple types and probability of membership to each type, making it a trivial step to combine.

Regarding **claim 10**, Deng and Maier also teach a device for performing the method of claim 1 ("classification system", Deng paragraph 28) ("device", Maier col. 1 ln. 4).

Regarding **claims 2 and 11**, Deng and Maier teach claims 1 and 10,
respectively.

The Deng and Maier combination as applied to claim 1 also teaches a
description method according to claim 1, characterized in that it includes the preliminary
step consisting of

defining the reference characteristics of a type starting from a group of
multimedia objects presumed to represent this type (B) ("Each training image is
identified with at least one class, depending on the content of the image and/or the
meta-data associated with the operational conditions of the recording device 12 during
the capture of the image.", Deng paragraph 50), by

measuring a physical characteristic on this entire group, and by obtaining one or
more reference values for this characteristic ("content-based analysis", Deng paragraph
50),

this (these) reference value(s) will then be used to define the probability of
membership relation to the type as a value with which a measurement on an unknown
object is compared to deduce the probability of membership to the type (Deng
calculates probability of membership to several classes in several steps, for instance "In
column 100, the second order classes are calculated on the basis of conditional
probabilities", Deng paragraph 55).

Regarding **claim 3**, Deng and Maier teach claim 2.

Deng in combination with Maier as applied to claim 2 does not teach the method according to claim 2, characterized in that the group of multimedia objects is provided in an automatic search step in an information system with an Internet downloader and an Internet search engine.

It would have been obvious at the time of invention to one of ordinary skill in the art to provide the description method of Maier with an internet enabled training method because the Deng and Maier classifier is web enabled ("classification requests from end-users through the Internet", Deng paragraph 33) and can be trained by an "external unit" (Deng Paragraph 50).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jared W. Radkiewicz whose telephone number is (571) 270-1577. The examiner can normally be reached on 8:00 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikkram Bali can be reached on (571) 272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JWR

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PRIMARY EXAMINER